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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,254	11/27/2000	Norio Nagatsuka	SON-1684/KOI	7973

7590 11/25/2002

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EXAMINER

MARC, MCDIEUNEL

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 11/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Brian D.
(202) 955-6753

Office Action Summary

Application No.

09/701,254

Applicant(s)

NAGATSUKA ET AL. 

Examiner

McDieunel Marc

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 65-71 and 84-86 is/are pending in the application.
- 4a) Of the above claim(s) 13-64, 72-83 and 87-92 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5-11, 65-67, 71, and 84-86 is/are rejected.
- 7) ☒ Claim(s) 2-4, 12 and 68-70 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

1. This is in response to a letter for patent filed on November 27th, 2000, in which claims **1-2, 65-71 and 84-86** have been elected for examination. Applicant is required to cancel non-elected claims 13-64, 72-83 and 87-92.
2. The restriction to claims 13-53, 45-54, 72-77 and 87-89 of group I and 23-32, 55-63, 78-83 and 90-92 of group II is **maintained and made Final**. See 37 CFR 1.143.

Priority

3. Acknowledgment is made of the claim for priority under ***35 U.S.C. 119(a)-(d)***.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Examiner suggested for example: **Robot Apparatus and Method for Controlling Emotion Module.**

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) **BRIEF SUMMARY OF THE INVENTION.**
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) **ABSTRACT OF THE DISCLOSURE** (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Also, the phrase "as shown in Fig. 4" should be deleted in the abstract. See line 4.

Election/Restrictions

5. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-12, 65-71 and 84-86, drawn to a robot device, which belongs to **class 700 subclass 247**.

Group II, claim(s) 13-53, 45-54, 72-77 and 87-89 drawn to a control method for a robot device, which belongs to **class 700 subclass 245**.

Group III, claim(s) 23-32, 55-63, 78-83 and 90-92, drawn to a program recording medium having recorded therein a program for carrying out, which belongs to **class 369 subclass 77.2**.

6. The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

As described above “a robot device”, “a control method for a robot device” and “a program recording medium having recorded therein a program for carrying out” lack the same technical features.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See In re Hill, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The term "living body" in claims 2, 4, 12, 68 and 70 are used by the claim to mean "acts naturally like a living body," while the accepted meaning is "emotion module."

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 1, ~~15-17~~, 65-67, 71, and 84-86 are rejected under 35 U.S.C. 102(a) as being anticipated by Breazeal *et al.* ("Infant-like Social Interactions between a Robot and a Human

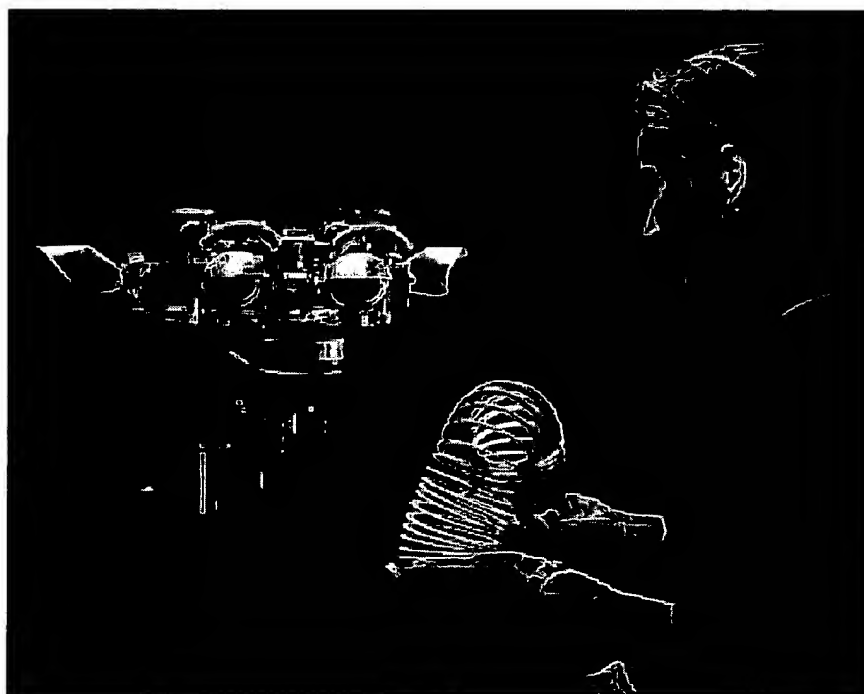


Figure 1. Kismet with toys. Kismet has an active stereo vision system with color CCD cameras mounted inside the eyeballs. There are also a variety of facial features which give the robot its expressive capabilities.

Caretaker, 1998").

As per claims 1, 65 and 84, Breazeal et al. teaches a system including “Infant-like Social Interactions between a Robot and a Human Caretaker” (Fig. 1) comprising an emotion module (see Figs. 9-11, particularly *Motivation System*) affect one another to output an emotion (see Figs. 9-11, particularly *Motor System*), please note that motivation system being readable as emotion module and Motor system being taken as outputted emotion; and

action means for acting on the basis of the emotion of the emotion outputted by the emotion module (see entire Figs. 9-11).

With respect to claim 65, an emotion module in which a plurality of emotion units representing emotions output individual emotions (see Figs. 2 and 9);

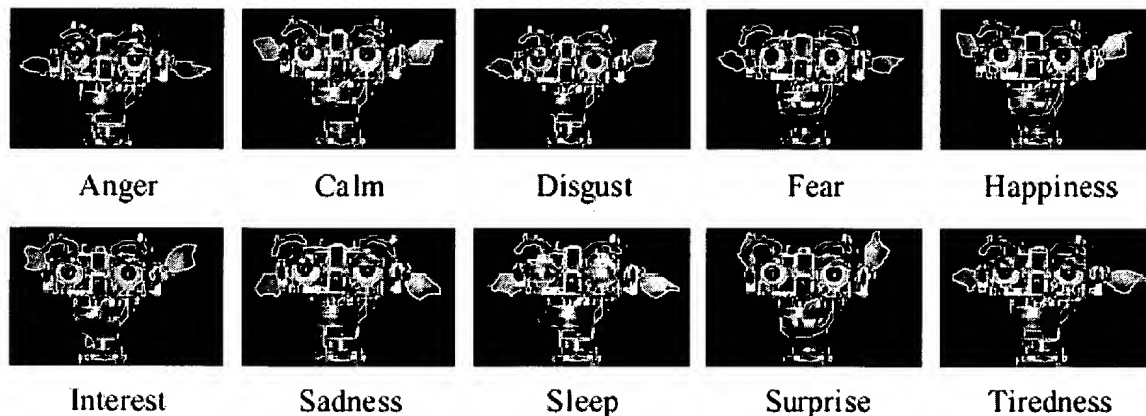


Figure 2. Static extremes of Kismet's facial expressions. During operation, the 11 degrees-of-freedom for the ears, eyebrows, mouth, and eyelids vary continuously with the current emotional state of the robot.

an instinct module in which a plurality of instinct units representing instincts output individual instincts (see Figs. 1 and 2);

action means for acting on the basis of the emotion outputted by the emotion module and the instinct outputted by the instinct module (see Figs. 1, 2, 4 and 9-11).

With respect to claim 84, detection means for detecting a stimulus applied from outside (see Fig. 1);

storage means (see Fig. 3, particularly *DPRAM Interface*) for storing the record of information related to the stimulus (see p.10 2nd paragraph, particularly dual-ported RAM and p.21 line 7);

response processing decision means (see Fig. 3, Pentium Pro PC, p.21 starting from *Evaluation of Ratio Templates*) for deciding response processing the basis of the stimulus detected by the detection means (see Fig. 1);

response execution means (see Fig. 4, particularly *Motor System*) for executing the response deciding the response processing on the basis of the record information stored in the storage means (see p.21 starting from *Evaluation of Ratio Templates*); and

the response processing decision means (see Figs. 1, 9-12) deciding the response processing on the basis of the record information stored in the storage mean (see p.21 starting from *Evaluation of Ratio Templates*).

As per claims 5-11, 66, 67, 71, 85 and 86, Breazeal et al. teaches a system a robot device wherein the emotion module outputs information of an emotion unit having the highest emotion level as the emotion, of the plurality of emotion units having affected one another (see Figs. 10-12); with respect to claim 6, wherein the respective emotion units of the emotion module affect

one another on the basis of external information (see Figs. 1 and 10-12); with respect to claim 7, wherein the respective emotion units of the emotion module affected one another with the lapse of time (see Figs. 13-18); with respect to claim 8, the robot device further comprising storage means for storing a plurality of the parameters for controlling the state of emotion of each emotion unit,... (see p.18, lines 3-18); with respect to claims 9-11, transmission/reception means ... (see Figs. 1 and 2, particularly Kismet's eyes), please note that the user being considered as another robot for the sake of using more than one robot; with respect to claims 66, 67 and 71, instinct module being taken as the above emotion module (see Figs. 2, 9-12); with respect to claims 85 and 86; wherein the response processing decision means (see Fig. 3, particularly Pentium Pro PC) is an emotion module for deciding an emotion in response to an emotion, which is the record information level (see Figs. 10-12) changing in response to the stimulus due to an emotion, and the response execution means....(see figs. 2, 10-12).

Allowable Subject Matter

12. Claims 2, 3, 4, 12 and 68-70 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or fairly suggest the limitation of a plurality of objects each being designed by an objected-oriented design; emotion units are designed by an object-oriented design; emotion units and the instinct units are designated by an object-oriented design; in combination with the other features of the claimed invention.

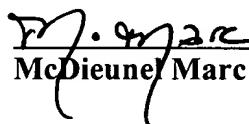
14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*** The prior arts cited in PTO-Form 892 with the exclusion of (Breazeal *et al.* and Hara *et al.*) disclose pertinent information related to the claimed invention. Applicants are requested to consider the prior art reference for relevant teachings when responding to this office action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (703) 305-4478. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, Jr. can be reached on (703) 308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


McDieunel Marc

November 18, 2002
MM/